



Seminar of the Division of Mathematical Analysis

## Dynamics of Sets of Multiples

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**Abstract:** Let  $\mathcal{B}$  be a subset of positive integers and  $\mathcal{M}_{\mathcal{B}}$  denote its set of integer multiples. Any element of the complement of  $\mathcal{M}_{\mathcal{B}}$  is called a  *$\mathcal{B}$ -free number*. The set of  $\mathcal{B}$ -free numbers is denoted by  $\mathcal{F}_{\mathcal{B}}$ . In 2010 Sarnak initiated the study of the dynamics of sets of multiples. Namely, the orbit closure of the characteristic function of  $\mathcal{F}_{\mathcal{B}}$  with respect to the left shift is called a  *$\mathcal{B}$ -free subshift*.

In the talk, I will present some examples of  $\mathcal{B}$ -free numbers and the corresponding subshifts especially those that are particularly interesting from the number theory view point, i.e. abundant numbers and squarefree numbers. I will discuss recent progress on the theory of  $\mathcal{B}$ -free subshifts.

Thursday, November 30, 2023, 11:00 AM - 12:00 PM  
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